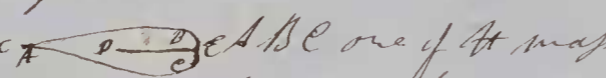
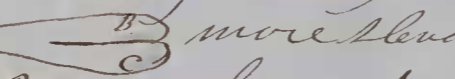
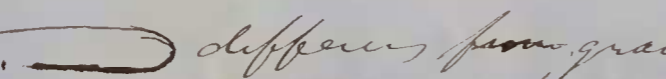



White Blains Sept 13/49

Dear Sir

I received your favour of Sep 5th in due time In respect to the aestivation of the corolla I have made constant and careful observations Since I wrote you last I have not been able to find a single flower bud of either *Gerardia tenuifolia* or *pedicularia* with the otherwise than the lower lip of the corolla exterior, excepting one of *G. tenuifolia* and that thus () As far as dried specimens of *G. flava* (out of flower long before *G. pedicularia*) will permit examination the aestivation is like the foregoing In comparing the aestivation of *Impatiens fulva* and the unspotted *Imp.* with the diagrams and description in *Scena Florae in Prodr.* I find it to be almost constantly the reverse I have from time to time examined a great many, to day out of 53 buds I found but 4 thus (), 4 () of the corolla lobes, 2 also thus () & the smaller lobe partly within and partly without With the observation that "I find many of the lateral sepals of *Imp. fulva* inclined to be spurred" I send you three flowers having one of the lateral sepals spurred on the back Perhaps this may go a little way to show their affinity to the large species I have gathered and put in press several full branches of *Impatiens* — The whole plant is so large for my press papers that it would be difficult to press the whole

I could do so if you wish still fuller ones
 I have gathered seeds also It is difficult to get
 them fully changed in colour although I suppose
 if the pods burst upon the least touch and the seeds
 are somewhat brown it will do The *Acalypha*
 is very common here, I had thought that the white
 of the one I sent you was undeveloped, but I find it
 constantly short, you say New Jersey and southern
 I wonder it has not been noticed here before
 Upon more recent attention to the *Hypochaeris*
 whilst growing in woods the habit shows its
 affinity to *L. stricta* and yet it strongly reminds
 one of *L. quadrifolia* by its large leafy base of
 the raceme, &c. I have pursued my examination
 of the pollen of *Spiranthes* which resulted beautifully
 I give you the notes as set down in my appendix
 "The pollen masses of *Spiranthes gracilis* are composed
 of obovate cleft laminae sic  one of the masses
 B, C the cleft, and the two sides B and C one placed face to
 face with the outer edge (as the mass, attached to the stigma
 is situated) overlapping the inner; each of these cleft
 divisions B, C, is composed of two laminae, not open next
 the cleft but opening from the outer edge inwardly, between
 which the pollen grains are attached very loosely"
 Pollen masses of *S. cornuta* shaped sic  more slender
 oblanco-lanceolate; the divisions B and C almost
 evenly oblanco-late sic  differs from *gracilis*
 which is sic oblanco convex I find that the older the flower or
 bud is, the less apt are its pollen masses to be separated by

so as to show the laminae, being rolled more close
 than when young, also the divisions each side of the
 cleft are with difficulty separated into laminae
 but the younger the flower the more easily is the lamina-
 tion made visible; so that in the smallest buds
 the mass in each lobe of the anther appears composed of
 four laminae incumbent on the stigma, I certainly
 must accept of your kind offer to have me a
Cherax fitted up, I suppose it could be done
 within the few days that I may, spend with you
Spiranthes cornuta I find is quite hoary and
 somewhat rough like on the upper part might not
 the shape of the pollen mass be used to distinguish species, for instance
Platifolia from *aestivalis* Is *subrosia* strictly monocious, I
 have found plants entirely covered with seeds and also
 others with fertile and sterile flowers in the same involucre
 I could not be deceived in this, for the fertile had gone
 to seed whilst the sterile were yet in flower I see that the
 staminate flowers have what appears to me at first like ^{radiate capitate} stigma
 which I find is exact sometimes before and sometimes
 after the anthers This plant puzzled me indeed, I certainly
 thought its flowers were perfect, I have what I suppose is
Patanoycton matans (var *fluitans*), according to you manual at least, but
 comparing with Mr. Tucker's observations I find it differs much
 Mr. Tucker in *Sill*'s Journal May 1849 makes it a distinct species
 I differ thus, "floating leaves attenuated into the plano convex (Drops
 section, deeply convex) footstalks, with sometimes two lateral
 absolutely prominent nerves, on petioles two and even three times longer
 than the leaves (2 or more long) Stipules strongly two ribbed at the base", I find the middle

(which he quotes simply "nipples compressed acutely carinate")
obscurely laterally keeled, exocarp removed, as in *Prunus*, I shall make
more extensive and strict examination soon. I have *Rudbeckia hirta*
which you have located Western N York &c I found it in June (which
agrees with Etow's mound) in a meadow like spot: but not me &
I have not seen it elsewhere, I have examined the glands of *Erodia*
virginica and found the difference from *discip* in *Lemnae Floral* &c being
shaped thus  "Corrections, Synopsis of *Corporata*, for five read five
page 186, line 16 from top - Page 476 line 8th from top for 5' read 5" *Potamogeton*
oblongus, for 1' read 1" - I shall be in N York on Sep. 28th, and shall
soon proceed to my uncle's in Mansfield just below you,
where I intend staying a short time, from thence you may
expect me, I suppose in the last part of the second week of October
I suppose I will have to go to Boston before getting to you, What
kind of a conveyance is there to Cambridge and where shall I find
it

Very truly yours

H. P. Clark

Henry James Clark

Leahy M.D.
Sept 25 1857